

THE FOURTH VANDERBILT CUP AUTOMOBILE RACE.

As mentioned in our last issue, the fourth automobile race for the Vanderbilt cup was run off upon a triangular course on Long Island on the 24th ultimo. The course this year was much better than before, owing to the fact that nearly half of it consisted of a fine smooth roadway of concrete, the turns of which were slightly banked and the grade crossings abolished. The grand stand was located about halfway between

should be added Acme and Chadwick 6-cylinder machines of 60 horse-power each.

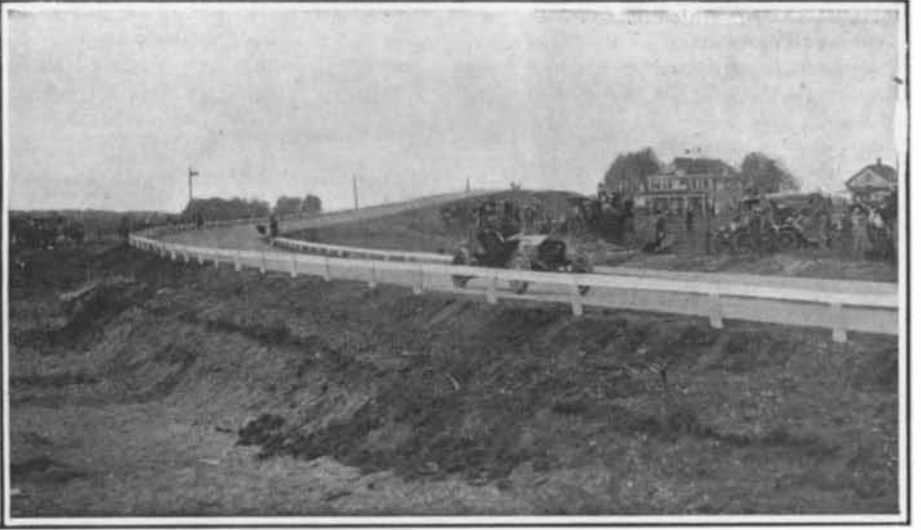
The foreign cars consisted of three 120-horse-power Mercedes machines; a 120-horse-power Hotchkiss, a 115-horse-power Renault, and a 60-horse-power Isotta. The Hotchkiss and Renault cars were high-powered racers which had appeared in the previous Vanderbilt cup race, while the Isotta has won several of the big races during the past summer.

without difficulty, with the exception of Foxhall Keene, who had trouble with his Mercedes. Robertson was obliged to stop his No. 16 Locomobile racer in front of the grand stand, to refill the radiator at the end of the first lap. He completed this lap of 23.46 miles in 20 minutes and 54 seconds, and was, consequently, in the lead. The Isotta car made its first round in 21:52, and a Chadwick in 21:53. At the end of the second round the Locomobile No. 16 still led, but the



Filling the fuel tank of the Isotta in front of the grand stand.

This 60-horse-power Italian machine was beaten by only 1 minute 48½ seconds.



The Long Island motor parkway, which formed half the course.

The view shows the descent from one of the bridges, and the sharp, slightly banked curve before the grand stand is reached.

each end of the parkway. The cars traveled east from the grand stand to the end of this parkway, thence west across the island to Jericho. From this point they followed the Jericho turnpike along a fairly straight road to Westbury, and from Westbury the course led south to the other end of the parkway. Despite the fact that it was especially prepared for fast-traveling automobiles, the surface of this parkway was rather wavy, and produced a constant jumping of the machines when they attempted to make high

The race was started promptly at 6.30 A. M. The oiled roads, forming more than half of the course, were very slippery, and made necessary the use of steel-studded, non-skidding tires. The first car to start was a Locomobile racer. This was followed by the smaller Knox stock car, while car No. 3 was a 120-horse-power Mercedes, driven by Stricker, who had had an accident a week before, but had not been seriously injured. All of the seventeen cars started in good shape, and succeeded in completing the first lap

Chadwick and Isotta had changed places. The end of the third round found them in the same position. The fourth round saw the Chadwick in the lead, the Isotta second, the Mercedes No. 3 third, and the Locomobile No. 16 fourth. In the fifth round Mercedes No. 3, driven by Stricker, and the Isotta car changed places; while at the end of the sixth round the Chadwick was first, the Locomobile No. 16 second, the Isotta third, and the Mercedes No. 3 fourth. During the seventh round the Locomobile moved ahead to first place and the Isotta to second place, while Mercedes No. 3 was third. The cars ran in this order until the end of the tenth round, when Mercedes No. 3 dropped out and Mercedes No. 5 attained third place. In the eleventh or final round Locomobile No. 1 forged ahead of Mercedes No. 5.

The reasons for the changes in place of the leading cars, as well as some of the troubles of the others, are given herewith. During the first round, Mercedes No. 18, which was owned and driven by Foxhall Keene, had a flare-up at the carbureter. Mr. Keene managed to extinguish the flames and continue, but this mishap had cost him a



The crowd of cars at the grand stand.

speed. The fastest speed was probably made upon the Jericho turnpike, where some of the drivers believed their machines traveled 95 miles an hour.

Of the nineteen machines entered in the race, but seventeen started. A Brasier car broke its steering gear while being driven to the starting line, and a B. L. M. was not completed in time to compete. The American cars were headed by two 120-horse-power Locomobile racers, and two 115-horse-power Thomas racers that competed in the last Vanderbilt race, two years ago. The third Thomas machine, of 80 horse-power, is the same car that was driven by Strang in the Grand Prix race in France last summer. Two Matheson machines of 60 and 85 horse-power and two Knox cars of 40 and 50 horse-power completed the list of 4-cylinder American machines. To these



The winning 120-horse-power Locomobile finishing.
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full half hour. As Robertson lost nearly two minutes refilling his radiator at the end of his first lap, the time of his second lap was lengthened to 22:13. Notwithstanding this he was still leading, though by 15 seconds only. The Chadwick made its second lap in 21:29, and consequently was 4 seconds ahead of the Isotta. Stricker's No. 3 Mercedes had tied the Chadwick (the times of both being 43:22 for the first two rounds) after a round in 20:57, and Locomobile No. 1

a badly-fitting dismountable rim, so that at the end of the eighth round it was only running sixth.

The same order was maintained during the eighth and ninth rounds, but in the tenth Stricker's Mercedes was put out of the running by a broken fan blade hitting the radiator, breaking it beyond repair. Mr. Vanderbilt's Mercedes, No. 5 (driven by Luttgen), thereupon took third place. At the end of the tenth round the Isotta was 4 minutes and 10 seconds behind the

photographs) to the grand stand. "Time 4 hours, 48 1/5 seconds," yelled the announcer, and it was known that one of the fastest and staunchest of American machines had won the Vanderbilt Cup at last. Robertson had defeated Lytle and his Italian Isotta car by but 1 minute 48 1/5 seconds, however, in the second long-distance race on the same course, in which the latter machine had averaged about 64 miles an hour; for in the sweepstakes race on October 10 the Isotta made an average speed of 64.2 miles an hour, while in the Vanderbilt Cup race it made an average of 63.7, the average speed of the winner, which had about double the horse-power, being 64.39. The chief cause of the more powerful machine failing to make a higher average is given as being the unevenness of surface of the cement parkway and the fact that there were many curves in it. In the 1906 race (which was won by a Darracq machine with an average speed of 61.43 miles an hour) Tracy made the fastest round with one of the two Locomobiles that competed this year, his average speed on that occasion being 67.66 miles an hour. The record fastest lap was made by Lancia on a Fiat in the 1905 race. His average speed for the lap was 72.88 miles an hour.



The winning Locomobile racer shooting over a bridge on the motor parkway.

Varnish Made with Carbon Tetrachloride.

Carbon tetrachloride is an excellent solvent for many resins, particularly such as are dissolved by benzine and mixed nitric and hydrochloric acids but are nearly or quite insoluble in alcohol. A very superior varnish is made by dissolving gum dammar in carbon tetrachloride heated to 120 deg. F. This varnish is easily applied and gives a tough, transparent coating which wears better than dammar varnish made with turpentine.

Some resins of the copal class, which dissolve with difficulty in turpentine and very slowly in boiled linseed oil, dissolve readily in hot carbon tetrachloride.

Carbon tetrachloride also possesses the property of completing the dissolving action of alcohol on many resins, so that these dissolve quickly and entirely in alcohol mixed with from 10 to 20 per cent of carbon tetrachloride. Gum lac, sandarac, and some other resins, for example, dissolve but slightly in commercial denatured alcohol of a strength of 90 degrees, owing to the presence of water, but they dissolve completely on the addition of 10 or 20 per cent of carbon tetrachloride.

was fifth after having completed its second round in precisely the same time as its mate, viz., 22:13. No. 12 Thomas racer was sixth. Its first and fastest round had been made in 22:04. The mate of this machine, No. 19, had trouble with its gears in the second round and dropped out. No. 15 Matheson, the 85-horse-power car driven by Chevrolet, cracked a cylinder and was obliged to quit.

In the third round Robertson made the fastest time, as he completed the circuit in 20:17, which was at the rate of 69.39 miles an hour. The 6-cylinder Chadwick was 1 minute and 25 seconds behind the Locomobile, and the Isotta 26 seconds behind the Chadwick. But 1 minute and 4 seconds separated the Isotta and Mercedes No. 3, while Locomobile No. 1 and Thomas No. 12 were still fifth and sixth respectively. The 6-cylinder Acme and the Hotchkiss racer dropped out in this round with a broken two-to-one gear and a broken clutch respectively.

The fourth round was a notable one, as all the leading cars made fast time. Locomobile No. 16 lost three minutes at the grandstand changing a tire and taking on some extra shoes, and as a result of this it dropped to fourth place. The Chadwick made its fastest round in 21:21 and was in the lead. The Isotta was 1 minute 9 seconds behind the Chadwick and 1 minute 23 seconds ahead of Mercedes No. 3. The Renault racer, driven by Strang, dropped out in this round with a burnt-out clutch. The second Matheson caught fire from a leaky carbureter placed too near the exhaust, and added one more to the eliminated cars.

The fifth round was another fast one, the only change being that Stricker's Mercedes No. 3 passed the Isotta and was leading it by but 27 seconds, while the Chadwick was 2 minutes and 34 seconds in the lead. Locomobile No. 16 was 3 minutes and 51 seconds behind the Chadwick. Foxhall Keene's Mercedes again caught fire, and this time it was out of the race.

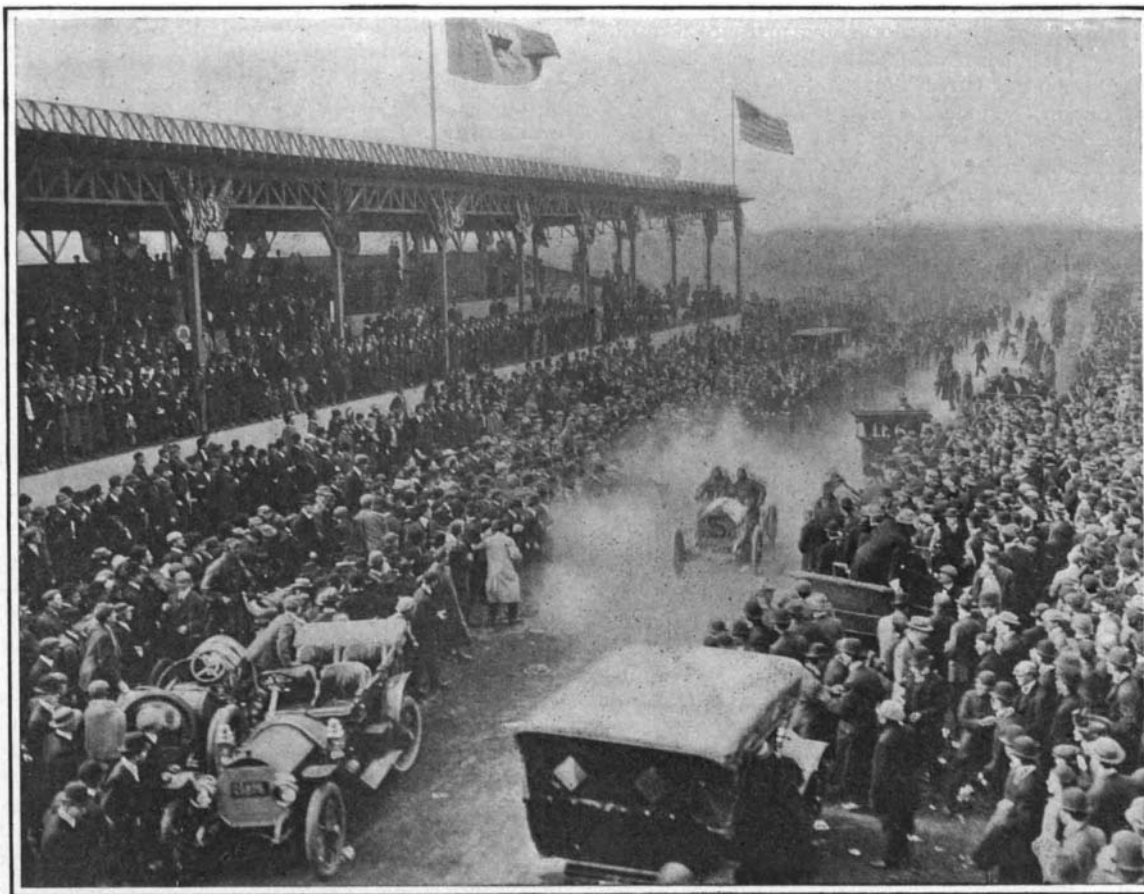
In the sixth lap Robertson made the circuit in 20 1/2 minutes, which brought him from fourth to second place, and in fact almost to first, for he was but 13 seconds behind the Chadwick.

Magneto trouble in the seventh lap delayed the Chadwick for half an hour and put it hopelessly behind. This machine was the only car in the race equipped with two separate magnetos, but unfortunately the breakdown that occurred affected both, and still another had to be fitted. Robertson made this lap in 20:36, and Lytle, with the Isotta, in 22:05. The former was leading by 2 minutes and 9 seconds, and the latter was 4 minutes and 56 seconds ahead of the Mercedes. The Thomas No. 12 was fourth, but at the end of the round it was delayed 20 minutes changing

Locomobile and 22 minutes and 44 seconds in advance of Mercedes No. 5. The Thomas racer was 4 minutes and 41 seconds behind the German car and the second Locomobile (No. 1) but 56 seconds back of the Thomas.

As the Isotta started 10 minutes before the Locomobile, it naturally finished first. Its eleventh and last lap was made in 21 minutes 50 2/5 seconds. Shortly before the Isotta finished, word was received at the grand stand that the Locomobile was off the road changing a tire. There was great excitement until it was learned, some two minutes later, that Robertson was on his way again. Not until he had less than two minutes in which to finish did his car appear upon the high bridge over half a mile away, and dash down the incline and around the curve (see one of the

Mr. John Brown, F.R.S., of Belfast, made a short communication on "The Dry Daniell Pile," to the recent meeting of the British Association, which he described at the Cape meeting in 1905, and the great constancy of which he had since tested. The pile was built up of sheets of copper and zinc, coated on one side with sheets of twilled cotton fabric, wet with a hot 10 per cent solution of sulphate of copper or of zinc. Pairs of these electrodes, separated by layers of plain blotting paper, were piled upon one another and compressed by a screw. The pile was made by Mr. John Finnegan, of Belfast, and its superior constancy, maintained for years, recommended it for electro-meter testing.



Luttgen's 120-horse-power Mercedes finishing fourth in 4 1/2 hours, unofficial time, because of the crowding of spectators upon the track. This was the last car to finish.

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